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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/803,328

03/18/2004

Nigel Strike

308084

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04/11/2005

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EXAMINER

RO, BENTSU

ART UNIT

PAPER NUMBER

2837

DATE MAILED: 04/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/803,328	Applicant(s) STRIKE ET AL	
	Examiner Bentsu Ro	Art Unit 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

FIRST OFFICE ACTION

1. The drawings filed on 3/18/2004 are informal, at least Figs. 1(a)-(d) are informal. Formal drawings are now required.

2. Claims 1-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

These claims are rejected because of the following reasons:

- Claim 1, lines 5-6, the recitation **"subtracting the emulated advancement time from the motor speed to generate a commutation countdown time;"** is an error, at least mathematically, because the units are not matched. The motor speed has a unit of radians per second (rad/s) whereas the emulated advancement time has a unit of time (seconds). How can one subtract a time unit (seconds) from a speed unit (radians per second) ???

If applicant goes to a supermarket and asks a salesperson to subtract one dollar from a produce of three pounds/dollar, is this feasible ???

If applicant believes that the recitation is correct, he must point out where in the specification has applicant disclosed such a limitation.

Because the limitation is mathematically incorrect, the examiner believes that this limitation is un-searchable.

- Claim 4, line 3; Claim 5, lines 3, 5; etc. the phrase "the anticipated fan speed" lacks antecedent basis. Nowhere in Claims 1-3 has applicant defined a "fan speed".
- Claim 5, lines 9-10, the recitation "hall sensor" lacks antecedent basis. In claim 1, applicant defines a "speed sensor", not a "hall sensor".
- Claim 6, lines 5-6, the recitation "calculating a commutation countdown value by subtracting an initial advancing time from the calculated motor speed..." is mathematically incorrect and therefore un-searchable as explained previously with respect to claim 1, lines 5-6.
- Claim 10, item (b), the recitation "...by subtracting the new advancing time from the anticipated motor speed" is a mathematical error.
- Claim 11, line 5, the recitation "subtracting the advancement time from the calculated motor speed...." is a mathematical error.
- Claim 12, item (b), the limitation "calculating a new commutation countdown time by subtracting the advancement time from the calculated motor speed" is a mathematical error.
- Claim 13, lines 5-6, the recitation "calculating a commutation countdown value by subtracting an initial advancing time from the calculated motor speed..." is a mathematical error.
- Claim 15, item (b), the recitation "calculating a new commutation countdown time by subtracting the new advancing time from the calculated motor speed" is a mathematical error.

- Claim 16, lines 6-7, the recitation "...by subtracting an advancement time from the calculated motor speed.." is a mathematical error.
- Claim 18, line 2, the recitation "...by adding the commutation countdown time and the anticipated motor speed" is again a mathematical error because time and speed just cannot be added together.
- Claim 19, last line, the recitation "..by subtracting the advance time from the calculated motor speed" is a mathematical error.
- Claim 21, lines 12-13, the recitation "...by subtracting an advancement time from the calculated motor speed..." is a mathematical error.
- Claim 23, lines 1-2, the recitation "..by adding the commutation countdown time and the anticipated motor speed" is a mathematical error.
- Claim 24, last line, the recitation "...by subtracting the advance time from the calculated motor speed" is a mathematical error.
- Claim 25, line 6, the recitation "subtract the emulated advancement time from the motor speed..." is a mathematical error.
- Claim 28, lines 6-7, the recitation "...by subtracting an initial advancing time from the calculated motor speed..." is a mathematical error.

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 25- 30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Nowhere in the specification, the drawings, the abstract, or the claims has applicant disclose a computer program code. A computer program code is a computer readable code, such as operational codes (op. codes) or binary codes.

Example of op. codes are: ADD, CLR, JMP, SUB, etc. Example of binary codes are 00110010; 11101000, etc.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 6, 11, 13, 16, 25, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda US Patent No. 5,298,839.

Claims read onto Takeda's teaching as follows:

Claim 1. A method of driving a motor emulating advancement of a speed sensor, comprising: calculating an emulated advancement time	Takeda Fig. 4 shows a method (and an apparatus) of driving a motor emulating advancement of a speed sensor; in Fig. 4, the output ΔT of an electrical
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<p>based on the motor's efficiency;</p> <p>measuring a motor speed utilizing a tachometer signal transmitted from a speed sensor;</p> <p>subtracting the emulated advancement time from the motor speed to generate a commutation countdown time; and</p> <p>commutating outputs from a controller to the motor when the commutation countdown time has expired.</p>	<p>angle control unit 24 is an advanced electrical angle; the advanced angle is defined in a time basis, see column 4, lines 55-62; in the text, Takeda repeatedly states "reduce power consumption", see column 1, lines 15, 34; column 2, lines 30-31; column 4, lines 2, 9-10; etc; these "reduce power consumption" are related to the motor's efficiency;</p> <p>Fig. 1 shows a Hall element 5, the Hall element is a position sensor and/or a speed sensor because position and speed are related as $v=dx/dt$ (v: speed; x : position; t: time); further, applicant also acknowledges that Hall sensor is a speed sensor, see applicant's claim 5, lines 9-10; Fig. 9A, step 8 "calculates rotational speed" is based on the Hall sensor signal;</p> <p>this limitation is not searchable as explained previously, however, Takeda's Fig. 4 includes a driving signal generation unit 25 for generating a commutation countdown time based on the motor speed (outputted from speed control unit 23) and the advanced time ΔT; Fig. 9B, step 13 shows $DLYCNT \leftarrow DLYCNT - 1$; which is a countdown time of the commutation angle;</p> <p>Fig. 4 shows a motor driving unit 26 for commutating outputs from a controller to the motor; the controller could read onto the driving signal generation unit 25 and the associated elements 21-24.</p>
<p>Claim 6. A method of initializing neutral commutation, comprising:</p> <p>initializing a first driving signal to drive a</p>	<p>Fig. 4 shows a method (and an apparatus) for initializing neutral commutation;</p> <p>when motor is started from standstill by the</p>

motor; receiving a tachometer signal from a speed sensor for the motor; calculating a motor speed based on the received tachometer signal; calculating a commutation countdown value by..... commutating outputs to the motor including generating a second driving signal if the commutation countdown value has elapsed.	motor driving unit 25, a first driving signal is needed; Fig. 4 shows a Hall element 5; Fig. 9A, step 8; this limitation is not searchable because of unit dimensional error; however, Takeda Fig. 4 shows an electrical angle control unit 24 and a driving signal generation unit 25 for calculating a commutation countdown time based on motor speed; see text; Fig. 4 shows a motor driving unit 26 for commutating outputs to the motor including generating a second driving signal if the commutation countdown value has elapsed; the second driving signal is the switched ON signal for the next motor winding.
Claims 11, 13, 16, 25, 28.	similar to that of claims 1 and 6.

7. Because the claimed limitations are unsearchable as explained previously in paragraph 2 above, no indication of allowable subject matter will be given in this office action. However, the examiner is pretty much sure that claims 1, 6, 11, 13, 16, 25, 28 are not allowable in view of Takeda's teaching.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2837

9. Any inquiry concerning this communication should be directed to Bentsu Ro at telephone number 571 272-2072.

4/7/2005


Bentsu Ro
Senior Examiner
Art Unit 2837